Marine Life Protection Act Initiative



Water Quality Evaluation Methods for the North Coast Study Region

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Evaluation Methods

Two categories of marine protected areas (MPAs):

- 1) Bay and estuary MPAs
 - Bays and estuaries are more likely to be associated with storm-water runoff
 - No areas of special biological significance (ASBSs) currently designated in embayments
- 2) Coastal MPAs
 - Coast and offshore rocks
 - Large ASBS areas provide opportunities for co-location.

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Scoring of MPA Proposals

Scores based on presence/absence of areas of water quality concern and opportunity

- Co-location with areas of water quality concern: Water quality scores deducted
 - Stormwater and nonpoint source discharges
 - · Industrial/municipal wastewater discharges
- Co-location with areas of opportunity: Water quality scores improved
 - State water quality protection areas (SWQPAs) and ASBSs



Evaluation Scoring Methods

0.0 is least desirable and has serious waterquality concerns

- ➤ For embayment MPAs, 1.00 is considered most desirable, with no water-quality concerns
- ➤ For coastal MPAs, 0.67 and greater is desirable, indicating no water-quality concerns
- Coastal MPAs with scores over 0.67 indicate they are co-located with an ASBS / SWQPA; a score of 1.0 is most desirable



Embayment MPAs

| Water Quality Concern Area | Co-located with Water Quality Concern Area Scores | Not Co-located with Water Quality Concern Area Scores | |
|---|---|--|--|
| Stormwater/Nonpoint Source Discharge | -1.0 | 1.0 | |
| Wastewater Discharge | -0.5 | 1.0 | |
| Final score for each MPA | Average of scores for each category, weighted by multiplying by ratio of MPA area to regional proposal total area for embayments. | | |

Maximum score for each category is 1.0

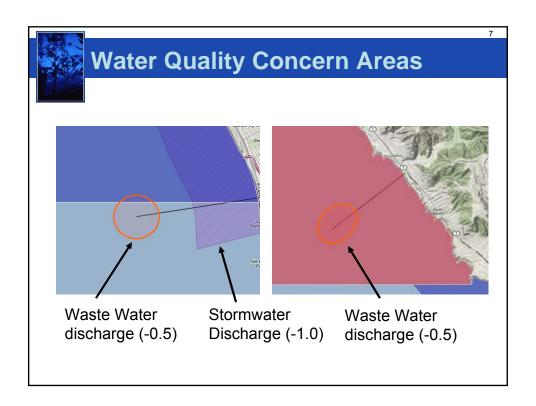


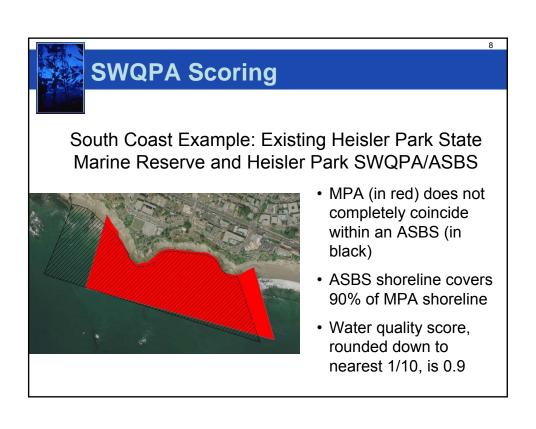
Coastal MPAs

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| Water Quality Concern Area | Co-located with Water Quality Concern Area Scores | Not Co-located with Water Quality Concern Area Scores | | |
|--------------------------------------|--|---|--|--|
| Stormwater/Nonpoint Source Discharge | -1.0 | 1.0 | | |
| Wastewater Discharge | -0.5 | 1.0 | | |
| Water Quality Protection Area | Co-located with SWQPA | Not Co-located with SWQPA | | |
| SWQPA/ASBS | Between 0 and 1, based on the % of shoreline coverage | 0 | | |
| Final score for each MPA | Average of scores for each category, weighted by multiplying by ratio of MPA shoreline to regional proposal total shoreline for coastal MPAs | | | |

Maximum score for each category is 1.0







Sample Evaluation

| | | Scores for Avoiding | | | | | |
|--------------------------------|-----------------------------|--|--------------------------------|---|-------------------------|-------------------|-------------------------------|
| Coastal MPAs | Shoreline Length (Mi) | Stormwater/ Nonpoint Source Discharge Zone | Wastwater Discharge Zone | Co-Located with an SWQPA/ ASBS | MPA Average Score | MPA Size Ratio | MPA Score Weighted Average |
| Example MPA One | 5 | 1.00 | 1.00 | 1.00 | 1.00 | 0.41 | 0.41 |
| Example MPA Two | 3 | 1.00 | 0.50 | 0.00 | 0.5 | 0.25 | 0.13 |
| Example MPA Three | 4 | 0.00 | 1.00 | 0.00 | 0.33 | 0.33 | 0.11 |
| Average Scores ¹ | 12 | 0.66 | 0.83 | 0.33 | 0.61 | - | 0.65 |
| 1 Shorleline Len | gth and MPA | Weighted Scores | are summed i | up and not avera | ged. | | |

MPA Average Score = Average of all three categories

MPA Size Ratio = Shoreline length of MPA / Σ (all shoreline lengths in the proposal)

MPA Weighted Score = MPA Average Score x MPA Size Ratio

Final Proposal Score = Σ (all MPA Weighted scores in a proposal)